

IN THE CLAIMS

1. (withdrawn) A method for analyzing nerve cell damage in a human subject comprising the steps of:

(a) providing a biological sample isolated from a human subject suspected of having a damaged nerve cell, the biological sample being a fluid in communication with the nervous system of the subject prior to being isolated from the subject;

(b) detecting in the sample the presence or amount of at least one marker selected from α II spectrin and an α II spectrin breakdown product (SBDP) generated from proteolytic cleavage of α II spectrin by at least one protease selected from the group consisting of caspase-3 and calpain; and

(c) correlating the presence or amount of the marker with the presence or type of nerve cell damage in the subject.

2. (withdrawn) The method of claim 1, wherein the biological sample comprises cerebrospinal fluid.

3. (withdrawn) The method of claim 1, wherein the subject has sustained trauma.

4. (withdrawn) The method of claim 1, wherein the marker is α II spectrin.

5. (withdrawn) The method of claim 1, wherein the marker is SBDP150i.

6. (withdrawn) The method of claim 1, wherein the marker is SBDP150.

7. (withdrawn) The method of claim 1, wherein the marker is SBDP145.

8. (withdrawn) The method of claim 1, wherein the marker is SBDP120.

9. (withdrawn) The method of claim 1, wherein the step (b) comprises detecting in the sample the presence or amount of at least two markers selected from α II spectrin, SBDP150i, SBDP150, SBDP145 and SBDP120.

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10. (withdrawn) The method of claim 1, wherein the step (b) comprises detecting in the sample the presence or amount of at least three markers selected from α II spectrin, SBDP150i, SBDP150, SBDP145 and SBDP120.
11. (withdrawn) The method of claim 1, wherein the step (b) comprises detecting in the sample the presence or amount of at least four markers selected from α II spectrin, SBDP150i, SBDP150, SBDP145 and SBDP120.
12. (withdrawn) The method of claim 1, wherein the step (b) comprises detecting in the sample the presence or amount of α II spectrin, SBDP150i, SBDP150, SBDP145 and SBDP120.
13. (withdrawn) The method of claim 1, wherein the step (b) comprises contacting the sample or a portion of the sample with an agent that specifically binds the marker.
14. (withdrawn) The method of claim 13, wherein the agent does not specifically bind at least one of α II spectrin, SBDP150i, SBDP150, SBDP145 and SBDP120.
15. (withdrawn) The method of claim 14, wherein the agent specifically binds only one of α II spectrin, SBDP150i, SBDP150, SBDP145 and SBDP120.
16. (withdrawn) The method of claim 13, wherein the agent is an antibody.
17. (withdrawn) The method of claim 1, wherein the step (b) comprises immobilizing the biological sample or a portion of the sample on a substrate.
18. (withdrawn) The method of claim 17, wherein the step (b) further comprises contacting the substrate with an agent that specifically binds the marker.
19. (withdrawn) The method of claim 1, wherein the step (c) of correlating the presence or amount of the marker with the presence or type of cell damage in the subject comprises

comparing the presence or amount of the marker in the sample with that in a standard sample known to not contain the marker.

20. (withdrawn) The method of claim 1, wherein the step (c) of correlating the presence or amount of the marker with the presence or type of cell damage in the subject comprises comparing the presence or amount of the marker in the sample with that in a standard sample known to contain a known amount of the marker.

21. (currently amended) A mixture comprising:

a biological sample isolated from a subject suspected of having a damaged nerve cell, the biological sample being a fluid in communication with the nervous system of the subject prior to being isolated from the subject; and

~~one or more~~ at least two added antibodies that specifically and independently bind to at least two markers ~~one marker~~ selected from ~~α II-spectrin and an α II-spectrin~~ α II-spectrin and an α II-spectrin breakdown product (SBDP) selected from at least one of SBDP150i, SBDP150, SBDP145 and SBDP120 generated from proteolytic cleavage of ~~α II-spectrin~~ α II-spectrin by at least one protease selected from the group consisting of caspase-3 and calpain.

22. (currently amended) The mixture of claim 21, wherein the ~~marker consists~~ markers consist of ~~α II-spectrin~~, α II-spectrin, SBDP150i, SBDP150, SBDP145, and SBDP120.

23. (currently amended) The mixture of claim 21, wherein the ~~one or more~~ at least two antibodies specifically and independently bind to ~~α II-spectrin~~ α II-spectrin and at least one of SBDP150i, SBDP150, SBDP145, and SBDP120.

24. (currently amended) The mixture of claim 21, wherein the ~~one or more~~ at least two antibodies specifically and independently bind to ~~SBDP145~~ SBDP145 and to only one of the group consisting of ~~α II-spectrin~~, α II-spectrin, SBDP150i, SBDP150, and SBDP120.

25. (previously presented) The mixture of claim 21, wherein the subject is human.

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26. (original) The mixture of claim 21, wherein the mixture is immobilized on a substrate.
27. (original) The mixture of claim 21, further comprising a detectable label.
28. (currently amended) The mixture of claim 27, wherein the detectable label is conjugated to the ~~one or more~~ at least two antibodies.
29. (currently amended) The mixture of claim ~~28~~, 27, wherein the detectable label is conjugated to a substance that specifically binds to the ~~one or more~~ at least two antibodies.
30. (currently amended) A kit for analyzing cell damage in a subject, the kit comprising:
- (a) a substrate for holding a biological sample isolated from a human subject suspected of having a damaged nerve cell, the biological sample being a fluid in communication with the nervous system of the subject prior to being isolated from the subject;
- (b) antibodies that specifically and independently bind to at least two markers ~~one marker~~ selected from ~~α II-spectrin~~ and an ~~α II-spectrin~~ α II-spectrin and an α II-spectrin breakdown product (SBDP) selected from the group consisting of SBDP120, SBDP145, SBDP150 and SBDP150i wherein the SBDPs are generated from proteolytic cleavage of ~~α II-spectrin~~ α II-spectrin by at least one protease selected from the group consisting of caspase-3 and calpain; and
- (c) printed instructions for reacting the antibodies with the biological sample or a portion of the biological sample to detect the presence or amount of the markers in the biological sample.
31. (currently amended) The kit of claim 30, wherein the ~~marker~~ markers detected ~~is~~ are α II-spectrin ~~α II-spectrin~~ and an SBDP selected from the group consisting of SBDP150i, SBDP150, SBDP145, and SBDP120.
32. (currently amended) The kit of claim 31, wherein the antibodies detect the presence and amount of ~~α II-spectrin~~, α II-spectrin, SBDP150i, SBDP150, SBDP145, and SBDP120.

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33. (currently amended) The kit of claim 32, wherein the antibodies specifically detect ~~α Hspectrum~~, α II-spectrum, SBDP150, SBDP145, and SBDP120.
34. (previously presented) The kit of claim 30, wherein the subject is a human.
35. (original) The kit of claim 30, further comprising a detectable label.
36. (previously presented) The kit of claim 35, wherein the detectable label is conjugated to at least one antibody.
37. (currently amended) The kit of claim ~~36~~, 35, wherein the detectable label is conjugated to a secondary antibody that specifically binds to ~~the~~ at least one antibody.
38. (currently amended) The mixture of claim 21, wherein the antibodies specifically and independently bind to SBDP120, SBDP150i, SBDP145 and optionally to ~~α Hspectrum~~ α II-spectrum.
39. (currently amended) The mixture of claim 21, wherein the antibodies specifically and independently bind to SBDP145, SBDP150, SBDP150i and optionally to ~~α Hspectrum~~ α II-spectrum.
40. (currently amended) The mixture of claim 21, wherein the antibodies specifically and independently bind to SBDP145, SBDP150i and optionally to ~~α Hspectrum~~ α II-spectrum.
41. (currently amended) The mixture of claim 21, wherein the antibodies specifically and independently bind to SBDP145, SBDP150 and optionally to ~~α Hspectrum~~ α II-spectrum.
42. (currently amended) The mixture of claim 21, wherein the antibodies specifically and independently bind to SBDP145, SBDP120 and optionally to ~~α Hspectrum~~ α II-spectrum.

43. (currently amended) The mixture of claim 21, wherein the antibodies specifically and independently bind to ~~αII-spectrin~~ αII-spectrin and SBDP145.

44. (currently amended) The mixture of claim 21, wherein the at least two added ~~one or more~~ antibodies ~~is an antibody that~~ specifically and independently ~~binds~~ bind only to SBDP145.

45. (currently amended) A kit for analyzing cell damage in a subject, the kit comprising:

(a) a substrate for holding a biological sample isolated from a subject suspected of having a damaged nerve cell, the biological sample being a fluid in communication with the nervous system of the subject prior to being isolated from the subject;

(b) an antibody that specifically and independently binds to a marker identified as ~~αII-spectrin~~ αII-spectrin breakdown product (SBDP) 145kDa generated from proteolytic cleavage of ~~αII-spectrin~~ αII-spectrin by at least one protease selected from the group consisting of caspase-3 and calpain; and

(c) printed instructions for reacting the antibody with the biological sample or a portion of the biological sample to detect the presence or amount of the 145 kDa marker in the biological sample.

46. (currently amended) The kit of claim 45, further comprising one or more antibodies that specifically and independently bind to an ~~SBDP~~ SBDP selected from the group consisting of SBDP150i, SBDP150 and SBDP120.

47. (currently amended) The kit of claim 45, further comprising an antibody that specifically and independently binds to ~~αII-spectrin~~ αII-spectrin.

48. (currently amended) The kit of claim 46, further comprising an antibody that specifically and independently binds to ~~αII-spectrin~~ αII-spectrin.

49. (previously presented) The kit of claim 45, wherein the subject is human.